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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|-------------------------|------------------|
| 10/790,045 | 03/02/2004 | Fumihiko Sano | 04329.2163-01 | 9811 |
| 22852 | 7590 | 03/31/2005 | EXAMINER | |
| FINNEGAN, HENDERSON, FARABOW, GARRETT & DUNNER LLP 901 NEW YORK AVENUE, NW WASHINGTON, DC 20001-4413 | | | CANGIALOSI, SALVATORE A | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 3621 | |

DATE MAILED: 03/31/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|--|------------------------|---------------------|--|
|  Office Action Summary | Application No. | Applicant(s) | |
| | 10/790,045 | SANO ET AL. | |
| | Examiner | Art Unit | |
| | Salvatore Cangialosi | 3621 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 May 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>5/25/04</u> | 6) <input type="checkbox"/> Other: _____ |

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1. The following is a quotation of 35 U.S.C. § 103 which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Subject matter developed by another person, which qualifies as prior art only under subsection (f) or (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.

2. Claims 1-13 are rejected under 35 U.S.C. § 103 as being unpatentable over Coppersmith et al(5768390) in view of Ritter(5623549) and Kim (6246768).

Regarding claim 1, Coppersmith et al(See Figs. 2-7, Col. 1, lines 45-65, Col. 2, Col. 7, lines 10-60) disclose a means for employing a triple DES system with keys including two mixers substantially as claimed. The differences between the above and the claimed invention is the use of explicit substitution. It is noted that the mixers are functionally equivalent to the claim limitations all DES systems include permutation (encryption) and substitution. Ritter (See Figs. 4a-8, 10, 12-17, Col. 5, lines 1-25, Col. 9, lines 50-65, Col. 12, Col. 19, lines 20-30) show triple DES including substitution. Kim

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(See Fig. 1 and 3) show DES employing key division. It would have been obvious to the person having ordinary skill in this art to provide a similar arrangement for Coppersmith et al because increasing complexity strengthens the cipher result. Regarding the same algorithm limitations of claim 2, Coppersmith et al (See Figs. 2-7, Col. 1, lines 45-65, Col. 2, Col. 7, lines 10-60) disclose employing a triple DES system with keys that are conventional functional equivalents of the claim limitations. Regarding intermediate key limitations of claim 3, Coppersmith et al (See Figs. 2-7, Col. 1, lines 45-65, Col. 2, Col. 7, lines 10-60) disclose employing a triple DES system with keys that is conventional functional equivalent of the claim limitations. Regarding algorithm limitations of claim 4, Coppersmith et al (See Figs. 2-7, Col. 1, lines 45-65, Col. 2, Col. 7, lines 10-60) disclose employing a triple DES system with keys that is conventional functional equivalent of the claim limitations. Regarding the encryption/decryption limitations of claim 5, Coppersmith et al (See Figs. 2-7, Col. 1, lines 45-65, Col. 2, Col. 7, lines 10-60) disclose employing a triple DES system with keys that are conventional functional equivalents of the claim limitations. Regarding key limitations of claim 6, Coppersmith et al (See Figs. 2-7, Col. 1, lines 45-65, Col. 2, Col. 7, lines 10-60) disclose employing a triple DES system with keys (Col. 3, lines 50-55) that is conventional functional equivalent of the claim limitations. Regarding key limitations of claim 7,

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Coppersmith et al (See Figs. 2-7, Col. 1, lines 45-65, Col. 2, Col. 7, lines 10-60) disclose employing a triple DES system with keys that is conventional functional equivalent of the claim limitations. Regarding claim 8, Coppersmith et al (See Figs. 2-7, Col. 1, lines 45-65, Col. 2, Col. 7, lines 10-60) disclose a digital software means for employing a triple DES system with keys including two mixers substantially as claimed. The differences between the above and the claimed invention is the use of explicit substitution. It is noted that the mixers are functionally equivalent to the claim limitations all DES systems include permutation (encryption) and substitution. Ritter (See Figs. 4a-8, 10, 12-17, Col. 5, lines 1-25, Col. 9, lines 50-65, Col. 12, Col. 19, lines 20-30) show triple DES including substitution. Kim (See Fig. 1 and 3) show DES employing key division. It would have been obvious to the person having ordinary skill in this art to provide a similar arrangement for Coppersmith et al because increasing complexity strengthens the cipher result. Regarding key limitations of claim 9, Coppersmith et al (See Figs. 2-7, Col. 1, lines 45-65, Col. 2, Col. 7, lines 10-60) disclose employing a triple DES system with keys (Col. 3, lines 50-55) that is conventional functional equivalent of the claim limitations. Regarding key dividing limitations of claim 10, Kim (See Fig. 1 and 3) show DES employing key division that is conventional functional equivalent of the claim limitations. Regarding key limitations of claim 11, Coppersmith et al (See

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Figs. 2-7, Col. 1, lines 45-65, Col. 2, Col. 7, lines 10-60)

disclose employing a triple DES system with keys (Col. 3, lines 50-55) that is conventional functional equivalent of the claim limitations (Note the claim recites the requirement of the DES standard). Regarding key dividing limitations of claim 12, Kim (See Fig. 1 and 3) show DES employing key division that is conventional functional equivalent of the claim limitations.

Regarding key dividing limitations of claim 13, Kim (See Fig. 1 and 3) show DES employing key division that is conventional functional equivalent of the claim limitations (See also Ritter, Col. 19, lines 5-30) for a standard eight bit parsing).

Applicants are also requested to define the differences between this case and its parent so that a double patenting issue may be avoided.

Any inquiry concerning this communication should be directed to Salvatore Cangialosi at telephone number (703) 305-1837. The examiner can normally be reached 6:30 AM to 5:00 PM, Tuesday through Friday. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Trammell, can be reached at (703) 305-9768.

Any response to this action should be mailed to:

Mail Stop Amendment
Commissioner for Patents

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or faxed to (703)872-9306

Hand delivered responses should be brought to

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 3600 Customer Service Office whose telephone number is (703) 306-5771.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


SALVATORE CANGIALOSI
PRIMARY EXAMINER
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